

REMARKS/ARGUMENTS

Favorable reconsideration of this application, in view of the above amendments and in light of the following remarks and discussion, is respectfully requested.

Claims 1-14 are pending in this application. By this amendment, Claim 15 is canceled and no claims are amended or added herewith. It is respectfully submitted that no new matter is added by this amendment.

In the outstanding Office Action, Claims 1, 8-9, 13 and 15 were rejected under 35 U.S.C. § 103(a) as obvious over U.S. Patent No. 6,372,944 to Matsumoto in view of U.S. Patent No. 6,727,383 to Nestler; and Claims 2-7, 10-12 and 14 were indicated as including allowable subject matter.

Applicants appreciate the Examiner indicating that Claims 2-7, 10-12 and 14 include allowable subject matter. However, for at least the reasons set forth below, Applicants respectfully assert that all pending claims are in condition for allowance.

The applied art does not teach, disclose or suggest that at least “two” spray zones which are spatially successive; condensation space and separating section are within one and the same column; the cooling liquid is condensate taken from the column; and the cooling liquid temperature has to become lower from spraying zone to spraying zone, as similarly recited in the independent claims.

Applicants respectfully direct the Examiners attention to the teachings in Nestler in view of present invention. In particular, the Figure in our application shows the direct cooler “E” and a distillation column (Ia to If) as set forth in Nestler. In Nestler, the 95°C is the temperature of the cooling liquid in the spray cooler E. The 34°C however is the temperature at the top of the distillation column. That is, both temperatures are not related to one another.

Further, the intention of the claimed process is a sharp separation. That is, Applicants wish to condensate the (meth) acrylic monomers sharply from noncondensable gases.

However, Nestler has no interest at all in such a sharp condensation. Nestler has no interest in a condensation at all but is only interested in cooling down the reaction gas to a certain degree in order to subsequently feed the still complete gas stream into a distillation column. As such, the teachings in Nestler are different from the claimed invention in design and purpose. Again, the claimed invention is concerned with the application of two spray zones having different temperatures.

With respect to Matsumoto, Matsumoto does not make up for the deficiencies of Nestler discussed above and in combination with Nestler, does not render obvious the features of the claimed invention. Specifically, Matsumoto is directed to a liquid withdrawing tray in order to withdraw reflux liquid from a purification liquid. To ensure the wetting of the lower lateral side at least one or a plurality of spray nozzles spray a liquid to said side. Please see column 5 of Matsumoto. The situation resembles the situation with Nestler. Even with disclosure of nozzles in the applied art, this does not render obvious the claimed invention. The claims are not directed to a nozzle, but to the application of a very sophisticated spray condenser.

The features recited above provide at least the advantages that no vapor pipe connecting the separating unit and the condensation unit is required. The heat of condensation present in the condensate obtained can generally be removed at a comparatively high temperature in a first indirect heat exchanger, so that the heat exchanger for the purpose of supercooling the condensate can usually be operated using river water. Alternatively, the withdrawal stream 12 can also be branched off into the heat exchanger upstream of the entry of the condensate withdrawn. Using successive spray zones results in a sharp condensative separation of offgas. As such, the throughput required for this purpose of condensate to be sprayed in the higher spray zones is comparatively low. This is advantageous in that the condensate sprayed in them is usually subjected to a second cooling in the heat exchangers

operated with cooling sols to attain the low cooling temperatures. The requirement for sols is in this regard comparatively low. Accordingly, the condensation unit according to the invention can therefore be operated in an energetically favorable manner. Please see the present specification at least at page 5, lines 25 to 28 and page 10, lines 20 to 32.

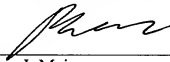
As discussed at page 4, line 25 of the present specification, it is known in the art to have direct cooling. However, as discussed above, all the features recited in the independent claims are not taught or suggested in the applied art. Again, the present invention is directed to providing an improved process for rectificatively separating fluids comprising (meth)acrylic monomers in a rectification column. To this end, the independent claims recite in part, that the process for separating the fluids includes cooling vapor in the condensation space in at least two spray zones, which are spatially successive, by spraying in each spray zone, supercooled top condensate comprising added polymerization inhibitor, with the temperature of the sprayed supercooled top condensate becoming lower from spray zone to spray zone in the flow direction of the vapor. None of the applied art teaches or suggests all the features discussed above. Thus, for at least the above reasons, Applicant respectfully requests that the rejection of the claims under 35 U.S.C. §103(a) be withdrawn.

Consequently, in view of the present amendment, no further issues are believed to be outstanding in the present application, and the present application believed to be in condition for formal allowance. A Notice of Allowance for Claims 1-14 is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact the undersigned representative at the below-listed telephone number.

Respectfully submitted,

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